A.7. Classifier assumptions

Here, we are assuming that the distributions of global property rankings are Gaussian. To verify the validity of this assumption, we performed a Kolmogorov–Smirnov test on the rankings of each property. All properties were found to be significantly Gaussian.

The naïve Bayes classifier is naïve in that it makes a strong independence assumption about the properties. In other words, it does not take covariance between properties into account. Although the strong independence assumption does not hold in a strict sense for our data given the correlations existing between properties (see Appendix A.2), we compared the naïve Bayes classifier to a linear discriminant classifier, which computes full covariance between properties, for all analyses reported in this paper. We found that the overall performance of both classifiers to not differ significantly ($t(14) < 1$, $p = 0.664$), and that the output of both classifiers to be very nearly identical ($r = 0.97$, $p < 0.0001$). We are therefore reporting all subsequent data from the naïve Bayes classifier only.